

REMARKS

By the above amendment which accompanies the RCE, claims 8 and 9 have been amended to recite further features of the present invention including (1) that the vacuum vessel is "made of alumina" as described in the paragraph bridging pages 9 and 10 of the specification, wherein it is indicated that with the construction utilizing an alumina vacuum vessel and a voltage of about 500 volts applied to the Faraday shield, the inner wall of the vacuum vessel is not excessively cleaned, alumina of the inner wall of the vacuum vessel is not damaged, and a stable processing is possible over a long period of time, wherein the deposition of reaction products on the inner wall of the vacuum vessel during etching can be inhibited, (see page 10, lines 1 - 10 of the specification). Moreover, in accordance with the present invention as now recited in claims 8 and 9, the apparatus includes the feature (2) of "a transfer means for transferring a dummy wafer to an electrode which supports the wafer when an aging treatment is carried out". That is, as shown in C of Fig. 5, for example, in the paragraph at page 11, lines 10 - 24 of the specification, an aging treatment is carried out before the processing method A of Fig. 5 and a dummy wafer is fed to the electrode 5 and plasma discharge is generated with a gas, as described under application of a voltage of at least 500 V to the Faraday shield, thereby carrying out the treatment to diminish the foreign matters in the vacuum vessel, with etching then being carried out, whereby influence by foreign matters can be reduced. Accordingly, the features as now recited in claims 8 and 9 are supported by the specification.

Applicants note that in addition to the features as now presented in claims 8 and 9, cooperate to provide an apparatus for plasma processing of a non-volatile material in which deposition of reaction products of the inner wall of the vacuum

vessel in the processing of samples can be inhibited or the deposited reaction products can be efficiently removed in the plasma processing apparatus in which a Faraday shield is provided between an antenna and plasma. Applicants submit that the features as now recited in claims 8 and 9 are not disclosed or taught in the cited art as will become clear from the following discussion.

The rejection of claims 8 and 9 under 35 USC 103(a) as being unpatentable over Doi et al (JP 2000-323298-A) in view of Demos et al (US Patent Application Publication No. 2001/0008138-A1). This rejection is traversed insofar as it is applicable to the claims, as amended, and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 USC 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under '103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an

obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Irrespective of the position set forth by the Examiner concerning the teachings of Doi et al and Demos et al, applicants submit that neither reference discloses or teaches the recited feature that the vacuum vessel is made of alumina or that the apparatus includes means for transferring a dummy wafer to an electrode which supports the wafer when an aging treatment is carried out, and neither reference provides the other features of the claims, irrespective of the Examiner's consideration wherein stable etching characteristics and excellent working efficiency of the apparatus is obtained. As such, with regard to these features alone, applicants submit that claims 8 and 9 patentably distinguish over Doi et al and Demos et al taken alone or in any combination thereof in the sense of 35 USC 103 and should be considered allowable thereover.

Furthermore, with regard to the Examiner's contention that the apparatus of Doi et al includes gas source containing "boron trichloride and chlorine in etching aluminum and quartz (paragraph 0066)" (emphasis added), applicants submit that a

proper reading of paragraph (0066) is that either chlorine gas or boron trichloride gas or other gas such as C_4F_8 is utilized as a raw gas. Thus, applicants submit that Doi et al does not disclose or teach in the sense of 35 USC 103 utilizing a gas containing "at least boron trichloride and chlorine" together. Rather, the Examiner has utilized the principle of "obvious to try" which is not the standard of 35 USC 103. See, In re Fine, supra. Additionally, while the Examiner indicates that "the voltage applied to the Faraday shield can be adjusted up to 1000V (paragraph 0047)" (emphasis added), applicants note that paragraph (0047) refers to Figure 14 of Doi et al and merely indicates that various voltages, as clearly shown in Figure 14 can be applied apparently up to a maximum of 1000V. However, there is no disclosure or teaching in Doi et al of "a voltage of at least 500V" (emphasis added) supplied to the Faraday shield is necessarily in combination with the other features as recited in claims 8 and 9. That is, claims 8 and 9 recite a minimum value of 500V being applied to the Faraday shield and there is no disclosure or teaching in Doi et al of the necessity of such minimum value, irrespective of the position set forth by the Examiner. As noted in the decision of In re Lee, supra, it is not proper to utilize what applicant has taught against the teacher.

Accordingly, applicants submit that claims 8 and 9, as amended patentably distinguish over Doi et al in the sense of 35 USC 103 and should be considered allowable thereover.

It is noted that the Examiner has recognized that Doi et al fail to teach an end point determination and detection device operating in the manner defined and irrespective of the Examiner's contentions concerning Demos et al, applicants submit that this reference also fails to disclose a vacuum vessel made of alumina, transfer means for transferring a dummy wafer to an electrode which supports a wafer when an aging treatment is carried out, a gas containing at least boron trichloride and chlorine and a voltage of at least 500V supplied to the Faraday shield when cleaning of the vacuum vessel in the manner set forth in claims 8 and 9. Accordingly, applicants submit that the combination of Doi et al and Demos et al fail to provide the

claimed features of claims 8 and 9 in the sense of 35 USC 103 and all claims should be considered allowable thereover.

In view of the above amendments and remarks, applicants request favorable application in this application.

Also submitted herewith in an information disclosure statement presenting art additionally cited in the divisional application of this application and other documents. Consideration of the information disclosure statement is requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 500.41295X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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Attachments